Remarks

The Applicants have amended main Claims 1, 2 and 22 in accordance with the Examiner's helpful suggestion in the Official Action on page 13 to recite that the joint material has excellent fuel permeation resistance. Therefore, as set forth in Claim 1, the subject matter includes a fuel pipe joint having excellent fuel permeation resistance comprising fuel permeation resistant joint material. The Applicants have therefore affirmatively claimed that the fuel pipe joint has excellent fuel permeation resistance and have further recited that the joint material is fuel permeation resistant. Accordingly, the Applicants have affirmatively claimed the subject matter that the Applicants have previously argued is not disclosed, taught or suggested in the prior art.

The Applicants have also amended main Claims 1, 2 and 22 to recite that the joint material is both weldable and fuel permeation resistant. The weldable aspect of the material may be found throughout the Applicants' Specification, such as at page 11, lines 24 – 26, for example. Entry into the Official File is respectfully requested.

Claims 23 – 25 have been cancelled to facilitate allowance of the entire Application. Of course, the Applicants specifically reserve the right to file one or more divisional applications directed to the subject matter of those cancelled claims.

The Applicants note the rejection of Claims 1 – 11, 26 and27 under 35 U.S.C. §103 over the hypothetical combination of Oka with Yokoyama. The Applicants respectfully submit that one skilled in the art would not make the hypothetical combination as set forth in the Official Action for the reasons set forth in detail below.

The rejection states that Yokoyama discloses "a fuel pipe joint having excellent fuel permeation resistance, using a joint material." The Applicants agree that Yokoyama discloses a pipe joint. The pipe joint is characterized as a quick connector. However, there is no reference through-

out the entire Yokoyama disclosure to "fuel." Careful scrutiny of the entire disclosure reveals that not one word is made concerning the word "fuel." The Applicants, therefore, respectfully submit that it would be in error to take the position that Yokoyama discloses a fuel pipe joint and that it would be in error to take the position that Yokoyama discloses a fuel pipe joint having excellent fuel permeation resistance. As a consequence of the lack of disclosure concerning whether the Yokoyama quick connector is for fuel, it inherently follows that there is no disclosure concerning fuel permeation resistance, much less whether the speculative and non-existent fuel permeation resistance is, would or could be excellent. In other words, there is no disclosure in Yokoyama at all concerning excellent fuel permeation resistance. The Applicants therefore respectfully submit that Yokoyama is non-enabling with respect to a fuel pipe joint having excellent fuel permeation resistance and is inapplicable to Claims 1 – 11, 26 and 27.

The Applicants also agree that Yokoyama does not disclose the specifically claimed polyamide joint material. Oka, on the other hand, has a similar problem to Yokoyama. There is no disclosure of fuel anywhere in the Oka disclosure and there is utterly no disclosure of fuel permeation resistance in Oka. As a consequence, the Applicants respectfully submit that Oka is also non-enabling with respect to the Applicants' claimed fuel pipe joint having excellent fuel permeation resistance comprising weldable and fuel permeation resistant joint material. Said differently, the Applicants specifically claim a fuel pipe joint and they specifically claim fuel permeation resistant joint material. Yokoyama fails to mention fuel or fuel permeation resistance and Oka fails to disclose fuel and fuel permeation resistance. Thus, both references used to form the rejection fail to have a single word directed to fuel or fuel permeation resistance. As a consequence, hypothetically combining Oka with Yokoyama would still fail to teach or suggest specifically claimed subject matter recited in Claims 1 – 11, 26 and 27, namely, a fuel pipe joint and fuel permeation resistant

joint material. On this basis alone, the rejection based on Yokoyama and Oka must fail, whether taken individually or collectively.

In any event, the Applicants respectfully submit that one skilled in the art would have utterly no motivation to make the combination and no reasonable expectation of success. Oka discloses a polyamide composition that may be used for moldings and electronic appliances. The polyamide is disclosed as being applicable to electrical and electronic appliances such as connectors, switches, relays, printed-wiring boards, reflecting mirrors, machine components, decorations, films, sheets and fibers. The composition has good flame retardancy, heat resistance, good thermal stability and moldability. However, there is nothing concerning the use of the polyamide of Yokoyama in pipes, pipe connectors or in connection with fuel (as mentioned above). As a consequence, the Applicants respectfully submit that one skilled in the art would have no incentive to combine the polyamide composition of Oka with Yokoyama.

As noted above, there needs to be motivation in the prior art to make the combination. There is none here inasmuch as the Applicants are claiming a fuel pipe joint having excellent fuel permeation resistance comprising fuel permeation resistant joint material. One skilled in the art, looking at both Oka and Yokoyama, would have no motivation to make such a combination to achieve the Applicants' claimed excellent fuel resistance. Moreover, one skilled in the art would have no reasonable expectation of success that taking the polyamide of Oka and employing it in the connector of Yokoyama would result in a fuel pipe joint having excellent fuel permeation resistance comprising a fuel permeation resistant joint material. There is no motivation to make the combination and no reasonable expectation of success based on the teachings of both of those references. Thus, one skill in the art would not make the combination and the rejection must fail on that basis as well.

Claims 1 – 11, 26 and 27 also recite that the joint material is weldable. Neither Yokoyama nor Oka disclose, teach or suggest this. That feature is an advantageous aspect of Claims 1 – 11, 26 and 27 and is not present at all in the teachings of Oka and Yokoyama. Thus, one skilled in the art would have no motivation to combine Oka with Yokoyama or have any reasonable expectation of success that such a hypothetical combination would result in a weldable joint material. The rejection must fail for that reason as well. The Applicants respectfully request that the rejection of Claims 1 – 11, 26 and 27, based on Oka and Yokoyama, be withdrawn.

The Applicants note the rejection of Claims 12 – 13 and 16 – 20 under 35 U.S.C. §103 over the further hypothetical combination of Noone with Oka and Yokoyama. The Applicants respectfully submit that Noone fails to cure the deficiencies set forth above with respect to Yokoyama and Oka. Therefore, one skilled in the art would not make the hypothetical combination of Noone, Oka and Yokoyama on the one hand and, even if the hypothetical combination were to be made, there would still be a complete failure to disclose, teach or suggest the Applicants' claimed fuel pipe joint having excellent fuel permeation resistance comprising weldable and fuel permeation resistant joint material as recited in the relevant claims. Withdrawal of the rejection is respectfully requested.

The Applicants note the rejection of Claims 14 and 15 under 35 U.S.C. §103 over the still further hypothetical combination of Andre with Noone, Oka and Yokoyama. Hypothetically combining Andre with the tertiary, secondary and primary references would fail to cure the deficiencies set forth above. Withdrawal of the rejection is also respectfully requested.

The Applicants note the rejection of Claims 1 – 11, 26 and 27 over the hypothetical combination of Uchida with Yokoyama. The Applicants have already established the inapplicability of Yokoyama. Briefly, Yokoyama is inapplicable in the context of this rejection for the following reasons.

The rejection states that Yokoyama discloses "a fuel pipe joint having excellent fuel permeation resistance, using a joint material." The Applicants agree that Yokoyama discloses a pipe joint. The pipe joint is characterized as a quick connector. However, there is no reference throughout the entire Yokoyama disclosure to "fuel." Careful scrutiny of the entire disclosure reveals that not one word is made concerning the word "fuel." The Applicants, therefore, respectfully submit that it would be in error to take the position that Yokoyama discloses a fuel pipe joint and that it would be in error to take the position that Yokoyama discloses a fuel pipe joint having excellent fuel permeation resistance. As a consequence of the lack of disclosure concerning whether the Yokoyama quick connector is for fuel, it inherently follows that there is no disclosure concerning fuel permeation resistance, much less whether the speculative and non-existent fuel permeation resistance is, would or could be excellent. In other words, there is no disclosure in Yokoyama at all concerning excellent fuel permeation resistance. The Applicants therefore respectfully submit that Yokoyama is non-enabling with respect to a fuel pipe joint having excellent fuel permeation resistance and is inapplicable to Claims 1 – 11, 26 and 27.

The Applicants respectfully submit that one skilled in the art would not hypothetically combine Uchida as set forth in the Official Action with Yokoyama for the reasons set forth in detail below.

Uchida also, like Yokoyama and Oka, fails to disclose, teach or suggest a fuel pipe joint or fuel permeation resistance. The Applicants have carefully considered the entirety of the Uchida disclosure and there is a brief reference as part of a longer list of possible applicability of the Uchida polyamide blend to a "fuel filter." Of course, a "fuel filter" is entirely different from a "fuel pipe joint." Also, one skilled in the art cannot really determine what the reference to a "fuel filter" really means. Is it a component that literally filters fuel or is it something else? The Uchida disclosure

does not answer this question and, accordingly, one skilled in the art can not really glean the significance of this passing mention of a particular automotive part. The consequence of this is that the mere mention of a "fuel filter," which is the only iteration of the word "fuel" anywhere in Uchida, does not provide teachings or suggestions to one skilled in the art to utilize the Uchida polyamide blend in conjunction with Yokoyama (which, as noted above, utterly fails to utilize "fuel" in any context). Thus, there is no motivation for one skilled in the art to make that combination and, in any event, there would be no reasonable expectation of success based on the Uchida disclosure that the Uchida polyamide blend, when combined with Yokoyama, would result in a "fuel pipe joint" that comprises fuel permeation resistant joint material. The Applicants therefore respectfully submit that the hypothetical combination is inapplicable.

Separately, there is nothing in Uchida that discloses, teaches or suggests that the fuel permeation resistant joint material is weldable, as specifically recited in Claims 1 and 2, for example. Therefore, one skilled in the art would have no motivation to make the combination and would have no reasonable expectation of success that such a combination would result in a weldable and fuel permeation resistant joint material. Thus, the combination is inapplicable for that reason as well.

There is yet another compelling reason why the combination of Uchida with Yokoyama would not be made and, in any event, would not provide teachings or suggestions concerning the unexpected results achieved by the Applicants. In that regard, the Applicants invite the Examiner's attention to the Applicants' Examples and Comparative Examples in general and Table 1 of the Applicants' Specification on page 25. The Applicants, in Examples 1 – 4, took the claimed polyamide and measured the flexural modulus dry, the flexural modulus wet, impact strength, electric resistance and the amount of fuel permeation/amount of HC. Then, the Applicants took various other polyamides, including nylon 12 and nylon 66, and ran similar tests. The dramatic results in

fuel permeation are shown in the Table wherein the lowest fuel permeation quantity of the Comparative Examples is more than 15 times higher than the highest fuel permeation of the Examples. The Applicants respectfully submit that such results are highly unexpected, based on known polyamides such as nylon 12, nylon 66 and nylon 9T.

One of the Applicants, namely Mr. Noriyuki Isobe, carried out a further Comparative Example, wherein he took yet another common polyamide, namely nylon 6, and conducted the same tests. That Comparative test resulted in a fuel permeation of 42.2, which is more than 17 times higher than the highest fuel permeation of the invention Examples. Thus, this further demonstrates the fact that various types of commonly available polyamides can be expected to have a high fuel permeation. The Applicants surprisingly found that the claimed polyamide provides dramatically different results.

What makes this even more compelling is the Uchida Examples and Comparative Examples taken in the overall context of the Uchida disclosure. In particular, the Uchida disclosure teaches those skilled in the art that utilization of the Uchida polyamide (A) alone is not a good thing. The Uchida polyamide (A) can be, among other things, nylon 9T, such as in the Applicants' Examples. However, Uchida teaches that compositions made from polyamide (A), which can be nylon 9T, produce poor results. What Uchida also teaches is that utilization of the aliphatic polyamides (B) in conjunction with polyamides (A) is highly advantageous. This is reflected in the Examples and Comparative Examples of Uchida. Table 1 contains the Examples, which include a blend of nylon 9T with other nylons such as 9-9 and 6-12. Those blended polyamide compositions have good characteristics.

However, Uchida ran a number of Comparative Examples such as those shown in Table 2 of Uchida. Interestingly, Uchida utilized nylon 9T alone, utilized nylon 9-9T alone and nylon 6-6T

alone. They all produced what Uchida characterized as poor compositions. Referring specifically to Comparative Example 1 that employed nylon 9-T alone, it can be seen that the characteristic that is closest to the Applicants' claimed fuel permeation characteristic, namely water absorption, is markedly inferior to the water absorption of the Uchida Examples that employ blends. A direct comparison reveals that the water absorption of nylon 9T, as set forth in Comparative Example 1, is at least 50% higher than the water absorption of the Uchida Examples.

What this means to one skilled in the art is that when one looks to Uchida, one skilled in the art would not employ nylon 9T, nylon 9-9T or nylon 6-6T alone. Instead, at best, one skilled in the art would look to a blend. However, the Applicants' Claims 1 – 11, 26 and 27 do not require a blend. Instead, the Applicants surprisingly discovered that the polyamide recited in those claims provides surprising results. The Applicants' Examples, Comparative Examples and the Declaration submitted by Mr. Isobe bear this out. Also, referring to the teachings of Uchida itself, those teachings would lead one skilled in the art not to use nylon 9T alone because the closest characteristic to the Applicants' claimed fuel permeation characteristic is markedly inferior, as demonstrated by Uchida. As a consequence, the Applicants respectfully submit that one skilled in the art would not make the hypothetical combination. Withdrawal of the rejection is respectfully requested.

The Applicants note the rejection of Claims 12 – 13 and 16 – 20 under 35 U.S.C. §103 over the further hypothetical combination of Noone with Uchida and Yokoyama. The Applicants have already established that one skilled in the art would not make the hypothetical combination of Uchida with Yokoyama. The Applicants respectfully submit that Noone fails to provide additional teachings that would cure the deficiencies set forth above with respect to Yokoyama and Uchida.

The Applicants therefore respectfully request that the rejection of Claims 12 – 13 and 16 – 20 be withdrawn.

The Applicants note the rejection of Claims 14 and 15 under 35 U.S.C. §103 over the further hypothetical combination of Andre with the tertiary, secondary and primary references. The Applicants have already established that one skilled in the art would not make the hypothetical combination of Uchida with Yokoyama. Andre fails to provide additional teachings or suggestions that would cure the deficiencies set forth above with respect to all three of Yokoyama, Uchida and Noone. Withdrawal of the rejection of Claims 14 and 15 is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,

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